

Appl. No.: 10/724,291 (Arthur, James D.) GAU 2838 Amnt A cont'd 2 of 8

CLAIMS: *The following is a listing of all claims in the application, with their status and the text of all active claims:*

Summary: Claim 13 is here presently amended. Claims 8 and 20 are presented as amended by Examiner 9/21/2006. No changes to the remaining claims 9-12, 14-19, or 21-29.

1.-7. (CANCELLED)

8. (PREVIOUSLY PRESENTED) A stabilized power converter comprising:

- (a) power supply means for supplying energy, and
- (b) inductive means for storing a stored energy, coupled to said power supply means, and
- (c) on-timing means, for establishing an on time interval, and capable of being disabled by a discharge potential across said inductive means during an off time interval, and
- (d) load means coupled to said inductive means for receiving said stored energy during said off time interval, and
- (e) power switching means responsive to said on-timing means, disposed to connect said inductive means in series with said power supply means and storing said stored energy in said inductive means during said on time interval,

whereby said power switching means stores energy from said power supply means in said inductive means during said on time interval, and said stored energy is discharged from said inductive means during said off time interval into said load means, and the duration of said off time interval is terminated at such time as said stored energy in said inductive means is substantially fully exhausted.

9. (PREVIOUSLY PRESENTED) Claim 8, where said load means comprises a plurality of light-emitting diodes.

Appl. No.: 10/724,291 (Arthur, James D.) GAU 2838 Amnt A cont'd 3 of 8

10. (PREVIOUSLY PRESENTED) Claim 8, where said on-timing means comprises
- (a) a timing-current generator capable of generating a timing current, and
 - (b) a timing capacitor coupled to said timing current generator for producing a timing voltage, and
 - (c) a threshold-detector means coupled to said timing capacitor for detecting a threshold voltage, and
 - (d) reset means for resetting said timing voltage on said timing capacitor to a reset voltage during said off time interval,

whereby said timing capacitor integrates said timing-current from said timing current generator and accumulates a timing voltage until said threshold voltage is reached, producing an output signal from said threshold detector, said output signal being coupled to and operating said power switching means.

11. (PREVIOUSLY PRESENTED) Claim 10, where said timing-current generator comprises a resistor in series with said power supply means.

12. (PREVIOUSLY PRESENTED) Claim 10, where said timing current generator comprises a resistor and a diode in series electrically connected to said power supply means.

13. (CURRENTLY AMENDED) Claim 10, where said timing current generator comprises a current source means capable of supplying a current ~~inversely~~ responsive to said power supply means.

14. (PREVIOUSLY PRESENTED) Claim 10, where said threshold-detector means is a transistor.

15. (PREVIOUSLY PRESENTED) Claim 10, where said load means comprises a plurality of light-emitting diodes.

Appl. No.: 10/724,291 (Arthur, James D.) GAU 2838 Amnt A cont'd 4 of 8

16. (PREVIOUSLY PRESENTED) Claim 10, said load means comprises a diode rectifier in series with a plurality of light-emitting diodes paralleled with a filter capacitor.

17. (PREVIOUSLY PRESENTED) A power converter for a light-emitting diode flashlight comprising:

- (a) power supply means, and
- (b) load means for providing an electrical load, and
- (c) inductive means for storing a stored energy, coupled to said power supply means, and for producing a momentary discharge voltage reversal when said stored energy in said inductive means is substantially fully exhausted, and
- (d) on-timing means for establishing an on time, and
- (e) power switching means responsive to said on-timing means, coupled to said inductive means such that closing and opening said power switching means causes energy from said power supply means to be alternately stored in said inductive means during said on time, and discharged into said load means when said power switching means is opened, and
- (f) off-timing means responsive to said discharge voltage reversal of said inductive means for establishing an off time,

whereby said off time is determined by the discharge time of said stored energy from said inductive means,

whereby a stabilized electrical current is provided to said load means.

18. (PREVIOUSLY PRESENTED) Claim 17, where said on-timing means comprises a resistor-capacitor network.

19. (PREVIOUSLY PRESENTED) Claim 17, where said on-timing means abbreviates said on time in response to increased supply voltages.

Appl. No.: 10/724,291 (Arthur, James D.) GAU 2838 Amnt A cont'd 5 of 8

20. (PREVIOUSLY PRESENTED) Claim 17, where said off-time terminates at substantially the same time as said stored energy in said inductive means is substantially exhausted.

21. (PREVIOUSLY PRESENTED) A stabilized power converter comprising

- (a) a first power input terminal means for supplying a first voltage, and
- (b) a second power input terminal means for supplying a second voltage, and
- (c) a first transistor, possessing a first collector, a first base, and a first emitter, and
- (d) a second transistor possessing a second base, a second emitter, and a second collector, and
- (e) an inductance, possessing a first terminal connected to said first voltage, and a second terminal connected to said first collector of said first transistor, and
- (f) a timing capacitor, coupling said first collector and said second base, and
- (g) a timing current generator means for generating a timing current, and
- (h) a first coupling means for electrically coupling two circuit nodes, and
- (i) an output load means, and
- (j) a collector load means for providing a second collector load,

wherein said first collector is additionally coupled to said output load means, and said first coupling means couples said second collector to said first base, and said timing current generator means is connected to said timing capacitor, and said collector load means is coupled to said second collector, and said first coupling means couples said second collector and said first base, and said first and second emitters are coupled to said second voltage, and said output load means is connected in series with said first collector and said second voltage,

whereby said first transistor is repetitively operated for an on time followed by an off time, causing said inductance to alternately store energy from said first power input terminal and discharge said energy into said output load means,

whereby a stabilized electrical current is delivered into said output load means.

Appl. No.: 10/724,291 (Arthur, James D.) GAU 2838 Amnt A cont'd 6 of 8

22. (PREVIOUSLY PRESENTED) Claim 21 where said first coupling means is a direct-current-blocking capacitor and said collector load means comprises

- (a) a first resistor connected between said first voltage and said second collector and
- (b) a second resistor connected between said first voltage and said first base,

wherein the time-constant obtained by multiplying the value of said direct-current-blocking capacitor by the sum of the values of said first and second resistors is greater than the period of a full cycle of said stabilized converter.

23. (PREVIOUSLY PRESENTED) Claim 21 where said first coupling means is a wire and said collector load means is a resistor connected between said first voltage and said second collector.

24. (PREVIOUSLY PRESENTED) Claim 21 where said collector load means is a resistor connected to said first voltage.

25. (PREVIOUSLY PRESENTED) A method for producing a stabilized electrical current in a load at a second voltage from an input electrical power at a first voltage, comprising:

- (a) providing a power supply capable of supplying energy at a first voltage, and
- (b) providing a timing means for producing a first signal, and
- (c) providing an inductive element means coupled to said power supply for storing energy from said power supply, and
- (d) providing an electronic switching means responsive to said first signal and capable of causing electrical energy to be stored in said inductive element means, and
- (e) providing an electrical load means for receiving said stabilized electrical current, and
- (f) charging said inductive element means via said electronic switching means for an on time responsive to said first signal, and
- (g) allowing said inductive element means to discharge into said load until the voltage across said inductive element means reverses, and
- (h) repeating steps (f)-(g) at a rate sufficient to create said stabilized current,

whereby said stabilized electrical current at said second voltage is produced in said load.

26. (PREVIOUSLY PRESENTED) Claim 25, where said first signal is inversely responsive in duration to said first voltage of said power supply.

27. (PREVIOUSLY PRESENTED) Claim 25, where said electrical load means comprises a plurality of light-emitting diodes.

28. (PREVIOUSLY PRESENTED) Claim 25, where said electrical load means comprises a rectifier diode connected in series with a filtering capacitor which is connected in parallel with a plurality of light-emitting diodes.

29. (PREVIOUSLY PRESENTED) Claim 25, where said electronic switching means is a transistor.